

AMENDMENTS TO THE CLAIMS:

Please cancel claims 1-31, 33-37, 39, 46, 47, 49-51, 53, 56, 57, and 59-78 without prejudice.

Please amend claims 32, 38, 40-45, 48, 52, 54, 55, and 58 as follows:

Please add new claims 79-98.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-31 (Cancelled)

32. (Currently amended) A method of screening for anticancer activity of a drug candidate comprising ~~-(a) providing~~ contacting a cell that expresses a cancer associated (CA) gene encoded by a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41, ~~selected from the group consisting of the sequences hD U-001 through hD U-013 shown in Tables 1-13 or fragment thereof;~~ (b) contacting a tissue sample derived from a cancer cell with an anticancer drug candidate; and (c) monitoring an effect of the anticancer drug candidate on an expression of the CA polynucleotide in the tissue sample; wherein an anticancer drug candidate which reduces expression of the nucleic acid is identified as a drug having anticancer activity and wherein said nucleotide sequence at least 95% identical to SEQ ID NO:41 encodes a polypeptide with signaling activity.

Claims 33-37 (Cancelled)

38. (Currently amended) The method of screening for anticancer activity according to claim 32, wherein the drug candidate is a signalling signaling protein antagonist ~~and further wherein the nucleic acid sequence is selected from the group consisting of hR U-001 hR U-007, hR U-007.1, hR U-007.2, hR U-009, hR U-009.1, hR U-012, and hR U-012.1.~~

Claim 39 (Cancelled)

40. (Currently amended) A method for detecting cancer associated with expression of a polypeptide encoded by a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 in a test-cell patient sample, comprising the steps of: (i) detecting a level of expression of at least one polypeptide selected from the group consisting of hP-U-001 through hP-U-013 according to Tables 1-13, or a fragment thereof; and (ii) comparing the a level of expression of the polypeptide in the test patient sample with a level of expression of the polypeptide in a normal cell sample, wherein an altered level of expression of the polypeptide in the ~~test-cell~~ patient sample relative to the level of polypeptide expression in the normal cell sample is indicative of the presence of kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer in the test-cell patient sample, wherein said nucleotide sequence at least 95% identical to SEQ ID NO:41 encodes a polypeptide with signaling activity.

41. (Currently amended) The method of claim 40, wherein a higher level of expression of the polypeptide in the test-cell patient sample relative to the level of polypeptide expression in the normal cell sample is indicative of the presence of cancer in the test-cell patient sample.

42. (Currently amended) A method for detecting cancer associated with expression of a polypeptide encoded by a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 in a test-cell patient sample, comprising the steps of: (i) detecting a level of activity of at least one polypeptide selected from the group consisting of hP-U-001 through hP-U-013 according to Tables 1-13, or a fragment thereof; wherein said activity corresponds to at least one activity for the polypeptide listed in Table 15; and (ii) comparing the a level of signaling activity of the polypeptide in the test sample with a level of signaling activity of the polypeptide in a normal cell sample, wherein an altered level of signaling activity of the polypeptide in the test-cell patient sample relative to the level of polypeptide signaling activity in the normal cell sample is indicative of the presence of kidney cancer, colon cancer, prostate

cancer, breast cancer or stomach cancer in the test-cell patient sample, wherein said nucleotide sequence at least 95% identical to SEQ ID NO:41 encodes a polypeptide with signaling activity.

43. (Currently amended) A method for detecting cancer associated with the presence of an antibody in a patient test-serum sample, wherein the antibody specifically binds a polypeptide having an amino acid sequence at least 95% identical to SEQ ID NO:42, or immunogenic fragment thereof, the method comprising the steps of: (i) detecting a level of an antibody against a an antigenic polypeptide selected from the group consisting of hP U-001 through hP U-013 according to Tables 1-13, or antigenic fragment thereof; and (ii) comparing said a level of said antibody in the test patient sample with a level of said antibody in the a control sample, wherein an altered level of antibody in said test patient sample relative to the level of antibody in the control sample is indicative of the presence of kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer in the test-serum patient sample, wherein said polypeptide has signaling activity.

44. (Currently amended) A method for screening for a bioactive agent capable of modulating the activity of a CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleic acid nucleotide sequence at least 95% identical to SEQ ID NO:41 selected from the group consisting of the polynucleotide sequences hR U-001 through hR U-013 shown in Tables 1-13, said method comprising :

a) contacting a cell that expresses a cancer associated (CA) gene encoded by a nucleic acid sequence comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 or fragment thereof combining said CAP and with a candidate bioactive agent; and

b) determining the effect of the candidate agent on the bioactivity of said CAP comparing the effect of the candidate bioactive agent on expression of the CA polynucleotide in the presence of the candidate agent to expression of the CA polynucleotide in the absence of the candidate agent;
wherein a candidate bioactive agent which modulates the expression of the CA gene is identified as a bioactive agent capable of modulating the activity of a CAP and wherein said nucleotide

sequence at least 95% identical to SEQ ID NO:41 encodes a polypeptide with signaling activity.

45. (Currently amended) The method of ~~screening for the bioactive agent according to claim 44, wherein the cancer is kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer~~ bioactive agent affects the expression of the CA protein (CAP).

Claims 46-47 (Cancelled)

48. (Currently amended) The method of ~~screening for the bioactive agent according to~~ claim 44, wherein the bioactive agent is a signalling signaling antagonist and further wherein the nucleic acid sequence is selected from the group consisting of hR U-001, hR U-007, hR U-007.1, hR U-007.2, hR U-009, hR U-009.1, hR U-012, and hR U-012.1.

Claims 49-51 (Cancelled)

52. (Currently amended) A method for diagnosing kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer comprising:
a) ~~determining the expression of one or more genes comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Tables 1-13, in a first tissue type of a first individual; and b) comparing a level of a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 in a patient sample comprising human prostate, lung, bladder, breast stomach or colon tissue to a level of the nucleic acid in a control sample, said nucleotide sequence at least 95% identical to SEQ ID NO:41 encoding a polypeptide with signaling activity~~ said expression of said gene(s) from a second normal tissue type from said first individual or a second unaffected individual; wherein a difference in said expression an increase of at least 50% from the level of the nucleic acid in the patient sample compared to the level of the nucleic acid in the control indicates that the first individual patient has kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer.

Claim 53 (Cancelled)

54. (Currently amended) A method for treating cancers cancer comprising administering to a patient an inhibitor of a CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a ~~nucleic acid~~ nucleotides sequence at least 95% identical to SEQ ID NO:41 ~~selected from the group consisting of the sequences outlined in Tables 1-13.~~

55. (Currently Amended) The method for treating cancers cancer according to claim 54, wherein the inhibitor of a CA protein (CAP) binds to the CA protein.

Claims 56-57 (Cancelled)

58. (Currently amended) The method for treating cancers cancer according to claim 54, wherein the inhibitor of a CA protein (CAP) is a signalling ~~signaling~~ protein antagonist and ~~further wherein the CAP sequence is encoded by a nucleic acid selected from the group consisting of hR U-001, hR U-007, hR U-007.1, hR U-007.2, hR U-009, hR U-009.1, hR U-012, and hR U-012.1.~~

Claims 59-78 (Cancelled)

79. (New) A method for diagnosing kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer comprising detecting evidence of differential expression of a polypeptide encoded by a nucleic acid comprising a nucleotide sequence at least 95% identical to SEQ ID NO:41 in a patient sample wherein evidence of differential expression of the polypeptide indicates that the patient has kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer.

80. (New) The method of claim 79, wherein expression in the patient sample is up-

regulated relative to expression in normal tissue.

81. (New) The method of claim 79 wherein evidence of differential expression is detected by measuring the level of a polypeptide or mRNA.

82. (New) The method of claim 81 wherein the mRNA has a sequence at least 95% identical to SEQ ID NO:41.

83. (New) The method of claim 81 wherein the mRNA has a sequence at least 98% identical to SEQ ID NO:41.

84. (New) The method of claim 81 wherein the mRNA has a sequence of SEQ ID NO:41.

85. (New) The method of claim 81 wherein the level of the polypeptide or mRNA in the patient sample is compared to a control.

86. (New) The method of claim 85 wherein the control is a known normal tissue of the same tissue type as in the patient sample.

87. (New) The method of claim 85 wherein the level of the polypeptide or mRNA in the sample is increased at least 50% relative to the control.

88. (New) The method of claim 85 wherein the level of the polypeptide or mRNA in the sample is increased at least 100% relative to the control.

89. (New) The method of claim 85 wherein the level of polypeptide or mRNA in the sample is increased at least 150% relative to the control.

90. (New) The method of any one of claims 40, 42, 43, 44 or 52 wherein the nucleotide sequence is at least 98% identical to SEQ ID NO:41.
91. (New) The method of any one of claims 40, 42, 43, 44 or 52 wherein the nucleic acid comprises the nucleotide sequence of SEQ ID NO:41.
92. (New) The method of claim 52 wherein the level of the nucleic acid in the patient sample is increased at least 50% relative to the control.
93. (New) The method of claim 52 wherein the level of the nucleic acid in the patient sample is increased at least 100% relative to the control.
94. (New) The method of claim 52 wherein the level of the nucleic acid in the patient sample is increased at least 150% relative to the control.
95. (New) A method of diagnosing kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer comprising:
a) determining the level of a nucleic acid that hybridizes under highly stringent conditions to a nucleic acid comprising a nucleotide sequence of SEQ ID NO:41 in a patient sample; wherein hybridization is performed at 50°C to 60°C in 5 X SSC (9 mM NaCl /0.9 mM sodium citrate); and
b) comparing said level of nucleic acid in (a) to a level of the nucleic acid in a second sample, said second sample comprising a negative control;
wherein an increase of at least 50% between the level of the nucleic acid in (a) and the level of the nucleic acid in the second sample indicates that the patient has kidney cancer, colon cancer, prostate cancer, breast cancer or stomach cancer.
96. (New) The method of claim 95 wherein the level of the nucleic acid in (a) is

increased at least 50% relative to the control.

97. (New) The method of claim 95 wherein the level of the nucleic acid in (a) is increased at least 100% relative to the control.

98. (New) The method of claim 95 wherein the level of the nucleic acid in (a) is increased at least 150% relative to the control.